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**Mouse hepatitis virus infection of the CNS: a model for defense, disease, and repair.**

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**Public Summary:**

**Scientific Abstract:**

Viral infection of the central nervous system (CNS) results in varied outcomes ranging from encephalitis, paralytic poliomyelitis or other serious consequences. One of the principal factors that directs the outcome of infection is the localized innate immune response, which is proceeded by the adaptive immune response against the invading viral pathogen. The role of the immune system is to contain and control the spread of virus within the CNS, and paradoxically, this response may also be pathological. Studies with a neurotropic murine coronavirus, mouse hepatitis virus (MHV) have provided important insights into how the immune system combats neuroinvasive viruses, and have identified molecular and cellular mechanisms contributing to chronic disease in persistently infected mice.

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